AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of the claims in the application.

Listing of Claims:

1-14. (Cancelled)

15. (Currently Amended) A method for measuring the activation status of neutrophil cells in a biological sample obtained from a mammal, ~~preferably a horse,~~ the sample containing the neutrophil cells and/or enzyme released by the neutrophil cells, which method specifically measures the ~~myeloperoxidase (MPO)~~ active enzyme content only, ~~which is~~ the content being correlated with ~~said~~ the cell activation status, ~~wherein~~ the method ~~comprises~~ comprising the steps of:

~~- obtaining a biological sample from said mammal, the sample containing said neutrophil cells and/or myeloperoxidase (MPO) released by the neutrophil cells,~~

- capturing ~~myeloperoxidase (MPO)~~ the enzyme present in the biological sample via ~~a myeloperoxidase (MPO)~~ an enzyme specific polyclonal or monoclonal antibody[[,]] ; and

- detecting and/or measuring ~~either total (active and inactive) myeloperoxidase (MPO) or exclusively~~ active ~~myeloperoxidase (MPO)~~ enzyme present in [[the]] said biological sample.

16. (Cancelled)

17. (Currently Amended) The method according to claim 15 which is a ~~SIEFED detection~~ Specific Immunological Extraction Followed by Enzymatic Detection method (SIEFED), wherein the step of ~~immunocapturing myeloperoxidase (MPO)~~ capturing the enzyme is followed by a washing step to remove any components that can interfere with the measurement of ~~myeloperoxidase (MPO) enzymatic activity,~~ the enzyme activity, the enzymatic activity of the ~~myeloperoxidase~~ enzyme fixed on its specific antibody then detected by adding a specific substrate to be transformed by the ~~myeloperoxidase (MPO)~~ active enzyme into a visible reaction product.

18. (Currently Amended) The method according to claim 17, wherein H_2O_2 and a ~~suitable~~ substrate of fluorimetric reaction product ~~of a substrate, such as 10-acetyl 3, 7-dihydroxyphenoxazine~~ are added to the reaction medium.

19. (Currently Amended) The method according to claim 15, wherein ~~said~~ the biological sample is a cellular or acellular sample selected from the group consisting of arterial, venous and capillary blood, serum, plasma, seminal fluid, broncho-alveolar fluid, urine, saliva, endotracheal fluid, peritoneal fluid, uterine irrigation liquids, sputum, synovial fluid, broncho-alveolar fluid, nasal fluid, gastric bowel and faecal derivate samples, cerebrospinal fluid and tissue extracts.

20. (Previously Presented) The method according to claim 15, wherein a neutrophil cell activation status is measured and correlated to a disease and/or pathology.

21. (Currently Amended) The method of claim 15, which further comprises the steps of:

- comparing ~~myeloperoxidase (MPO)~~ the enzyme values with normal ~~myeloperoxidase (MPO)~~ enzyme levels obtained from a significant number of healthy mammals[[,]] ; and

~~optionally quantifying MPO levels using a standard myeloperoxidase (MPO) curve, and~~

- relating the ~~myeloperoxidase (MPO)~~ enzyme levels measured to an activity status of the cells indicative of the presence[[,]] or absence of a disease or conditions of the immunological status of the mammals.

22. (Previously Presented) The method of claim 15, wherein the mammal is a horse.

23. (Currently Amended) The method of claim 18, wherein ~~a sufficient~~ an effective amount of nitrite is added to the reaction medium to enhance the generated fluorescent signal.

24. (Withdrawn) The method according to claim 15:

- for the detection and/or the prediction of a disease or pathology selected from the group consisting of chronic or acute inflammatory diseases, digestive pathologies, strangulated intestinal pathologies, sepsis, septic shock, chronic and acute pulmonary pathologies, ischemia-reperfusion pathologies, articular pathologies, colics, laminitis, allergies, infections and cardiovascular diseases,
- to follow-up neutrophil cell activiation during therapy of a diseased mammal,

- to evaluate the ability of neutrophil cells and/or drugs to fight against micro-organisms and/or to destroy them,
- to evaluate the efficiency of immunomodulators or the *in vitro* inhibitory capacity of drugs by comparing the neutrophil activation status of treated and non-treated neutrophils,
- to evaluate the ability of neutrophils treated with modulators and/or drugs to against micro-organisms and/or to destroy them,
- to evaluate the natural defense capacity or ability of a mammal to fight against micro-organisms,
- to screen and to select compounds which interact with myeloperoxidase (MPO) and possibly inhibit myeloperoxidase (MPO) activity or
- to distinguish between total and active myeloperoxidase (MPO) content in the biological sample.

25. (Withdrawn) An ELISA kit or device for measuring the activation status of neutrophil cells in a biological sample obtained from a mammal, which ELISA kit or device specifically measures the total (active and inactive) myeloperoxidase (MPO) content, said content being correlated with said cell activation status, said ELISA kit or device comprising the necessary elements for:

- immunocapturing myeloperoxidase (MPO) that is present in a biological sample obtained from a mammal and containing said neutrophil cells or myeloperoxidase (MPO) released by said cells, said immunocapturing being preferably obtained by a first MPO-recognizing polyclonal or monoclonal antibody immobilized to a solid support,
- detecting and/or measuring active and inactive myeloperoxidase (MPO) present in said biological sample, by a second enzymatically labelled myeloperoxidase (MPO)

recognizing polyclonal or monoclonal antibody for detection of immunocaptured myeloperoxidase (MPO).

26. (Currently Amended) A ~~SIEFED~~ Specific Immunological Extraction Followed by Enzymatic Detection (SIEFED) kit or device for measuring the activation status of neutrophil cells in a biological sample obtained from a mammal, which ~~SIEFED~~ kit or device specifically measures the active ~~myeloperoxidase (MPO)~~ enzyme content only, ~~said~~ the content being correlated with ~~said~~ the cell activation status, ~~said~~ the ~~SIEFED~~ kit or device comprising the necessary elements for:

- immunocapturing ~~MPO~~ the enzyme present in a biological sample~~, preferably a biological fluid,~~ obtained from a mammal, the sample containing ~~said~~ the neutrophil cells or ~~myeloperoxidase (MPO)~~ the enzyme released by ~~said~~ the cells,
- detecting and/or measuring active enzyme ~~myeloperoxidase (MPO)~~ present in ~~said~~ the biological sample.

27. (Withdrawn) A screening and selection method of compound(s) interacting with myeloperoxidase (MPO), which comprises the steps of:

- capturing active myeloperoxidase (MPO) to a solid support,
- adding one or more compound(s) to the active myeloperoxidase (MPO),
- measuring myeloperoxidase (MPO) activity after addition of the compound(s).
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28. (Withdrawn) The method of claim 27, wherein the step of capturing active myeloperoxidase (MPO) is done by an antibody.

29. (Withdrawn) The method according to the claim 27, which comprises after the step of adding one or more compound(s) to the active myeloperoxidase (MPO) a

step of washing of the compound(s) which are not bound to the active myeloperoxidase (MPO).

30. (Withdrawn) The method of claim 27 for the screening selection of compounds inhibiting myeloperoxidase (MPO) activity.

31. (Withdrawn) The method of claim 27 which further comprises the step of:

- measuring myeloperoxidase (MPO) activity before addition of the compounds,
- comparing myeloperoxidase (MPO) activities before or after addition of the compounds, and
- recovering the compounds that interact with myeloperoxidase (MPO).

32. (New) The method of claim 15, wherein the enzyme is myeloperoxidase.

33. (New) The method of claim 15, wherein the enzyme is trypsin.

34. (New) The method of claim 15, wherein the enzyme is elastase.

35. (New) The method of claim 18, wherein the substrate is 10-acetyl-3, 7-dihydroxyphenoxazine.

36. (New) The method of claim 21, which further comprises quantifying enzyme level with a standard enzyme curve.

37. (New) The kit or device of claim 26, wherein the enzyme is myeloperoxidase.

38. (New) The kit or device of claim 26, wherein the enzyme is trypsin.

39. (New) The kit or device of claim 26, wherein the enzyme is elastase.